

## ABSTRACT

It is an object of the present invention to provide an electrical stimulating device for efficiently providing direct electrical stimulation to a large number of nerve cells *in vitro* without causing any injuries to such cells. The present invention provides a cell stimulating device which comprises: a first electrode serving as a positive or negative electrode that extends from one side of a culture vessel that is used for accommodating cultured cells to a point at which the first electrode is not in contact with the cultured cells or is in contact with the surfaces of the cultured cells; and a second electrode serving as a negative or positive electrode that extends from the other side of the culture vessel to a point at which the second electrode is not in contact with the cultured cells or is in contact with the surfaces of the cultured cells, wherein an electric field for stimulating cells is formed via the first electrode and the second electrode.